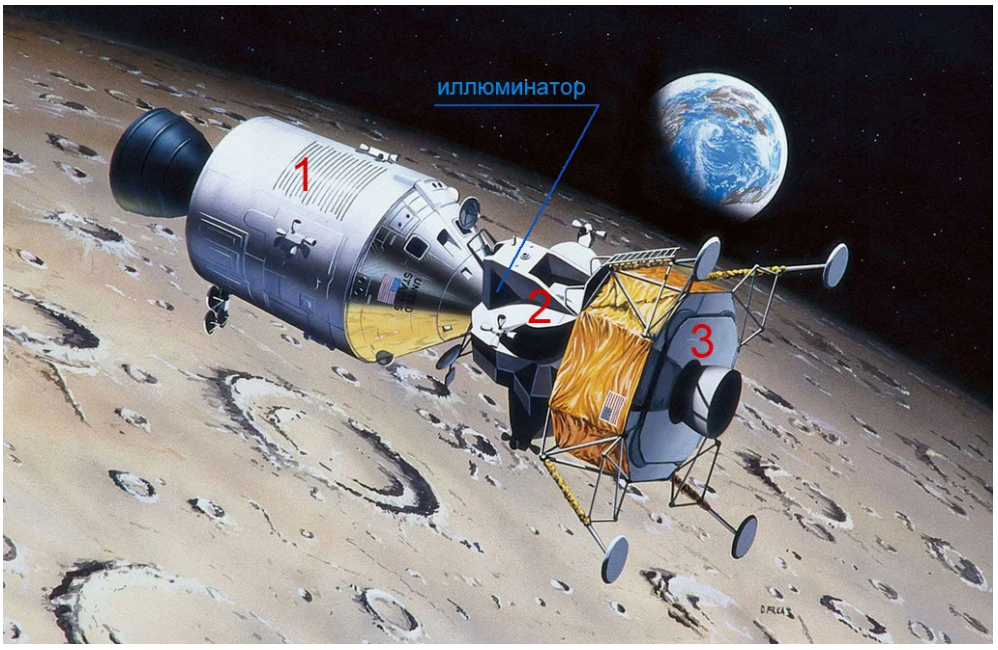
65. Undocking in lunar orbit. Why are all frames of the lunar module mock-ups?

8-10 minutes

I opened the "space encyclopedia" to remember exactly how the undocking of the Apollo 11 spacecraft before landing on the moon took place. And that's what I learned. Initially, 12 orbits around the Moon, the lunar and command module flew in a twin.



Initially, all three comic ships fly, connected together.

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At the beginning of the 13th orbit, the Columbia command module (it is number 1 in the figure) *and the Eagle lunar module undocked. Armstrong, using the attitude control engines, made a full rotation of the lunar module around the vertical axis, Collins visually examined it and reported that the landing stage supports* (in the figure under the number 3) *opened normally. Armstrong reported to MCC in Houston about undocking. When asked about sensations, he said: "The Eagle has wings." Collins noticed that the Eagle looks great, only flies upside down. To which Armstrong replied: "Some of us are flying upside down."*

The lunar module looks upside down through the command module porthole.

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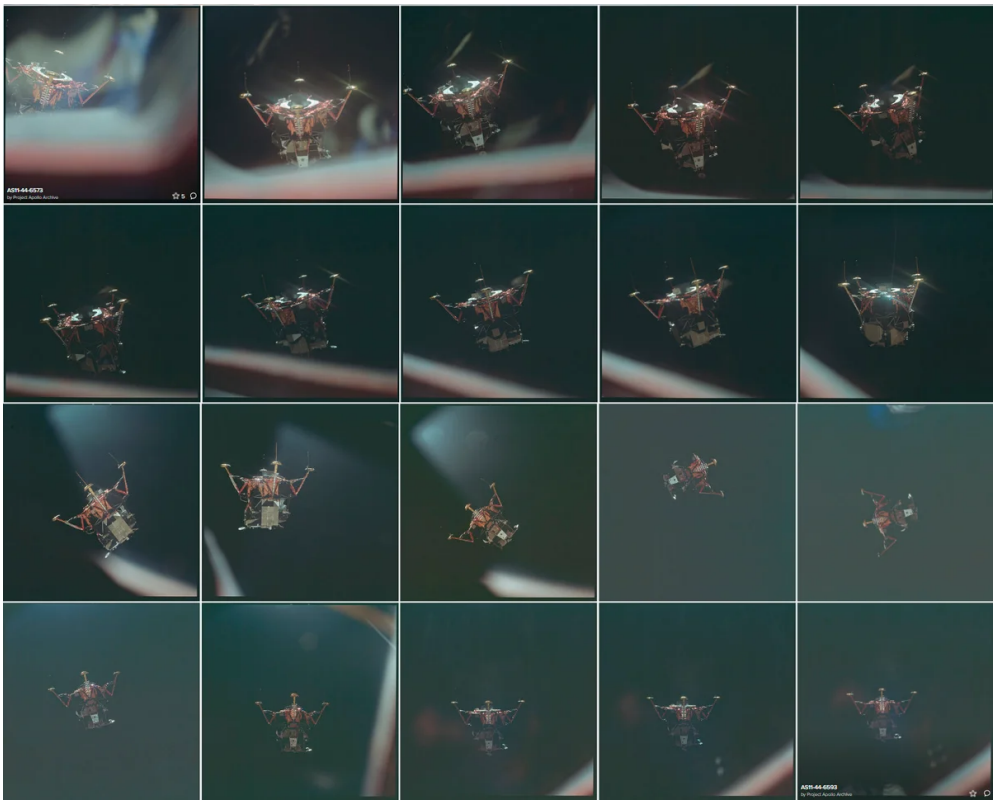
What a wonderful text has been written! Emotionally and with light humor! Exactly as taught in the courses for aspiring screenwriters. We read on.

Collins took the Columbia to a distance of about 1300 m. At the end of the 13th orbit, over the far side of the Moon, the engine of the lunar module landing stage was turned on for 29.8 seconds, the Oryol entered the descent orbit with a settlement of 105.9 km and perilune 15.7 km.

How accurately described. The engine turned on for 29.8 seconds. If you write that the engine turned on for 29.83 s, no one would believe it. It will be said that with such an accuracy, up to hundredths of a second, it is impossible to make the interval of turning on and running the engine. If you round up the number and write 30 seconds, then the

reader will doubt the reliability - something too even number. But 29.8 s is just what you need. It's like the price tag on a product - not exactly $ 30, but $ 29.98. The scientific calculation of the cost is immediately felt.

The lunar module flew forward with the landing stage legs and portholes down so that astronauts could track landmarks on the surface.



20 images of undocking, Apollo 11, cassette 44.

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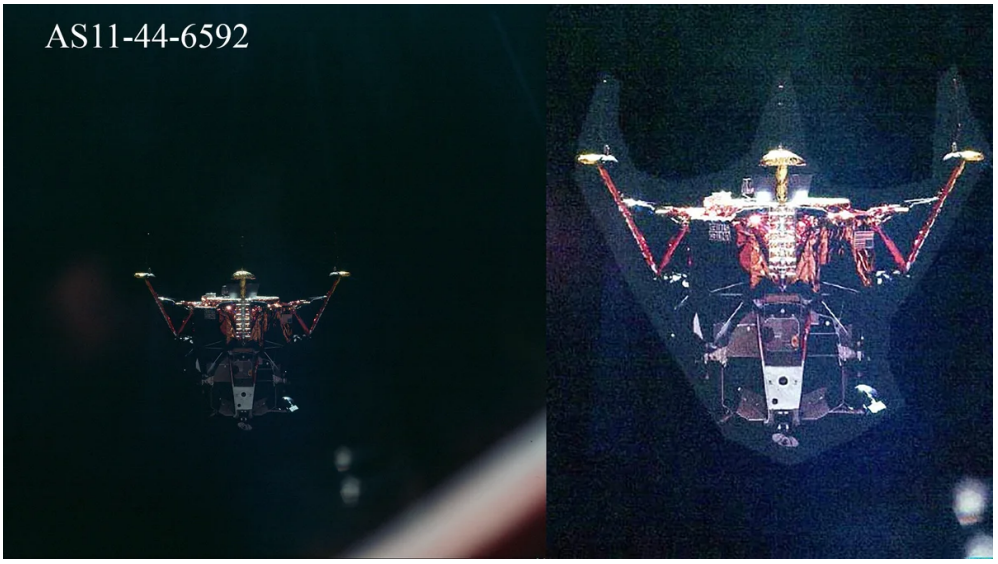
Honestly, it's written cool! A little more - and a tear of pride for the outstanding achievement of humanity will run. But a tear does not come to the throat when looking at photographs intended "for all mankind." And even more than that, after watching this whole series of shots, you get the feeling that you accidentally fell into shit. You were promised one thing, and when you held out your hand, they slipped you shit.

All undocking shots were filmed using a toy mock-up suspended on two thin wires.

Therefore, we can argue that the astronauts could not see how the undocking took place. Neither Armstrong nor Collins were invited to film this episode. The episode was filmed without actors.

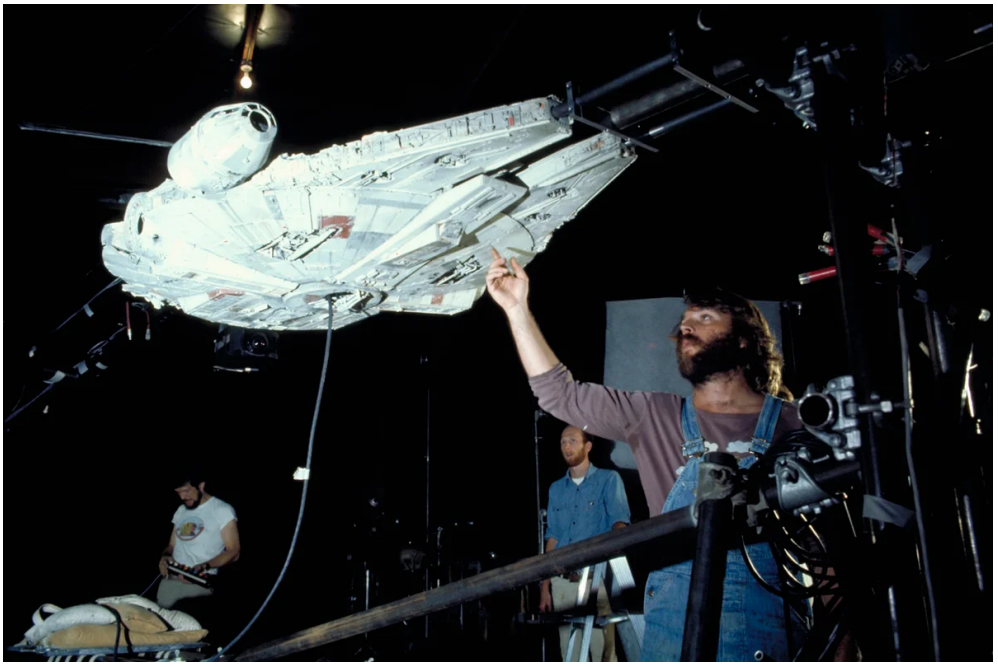
The view of the receding lunar module was obtained by combining two frames: a separate fragment of the window in the foreground is one frame, and the toy lunar module in the distance is another frame. We already wrote in the article 63. How did one lunar photograph come from two images? Part 1 , that with increasing the brightness of the image, traces of editing are visible - as if someone had cut out the lunar module and pasted it into another photograph, where the black space is visible through the window.



Left - AS11-44-6592 image from NASA official website, right - image brightness increased.

Left - AS11-44-6592 image from NASA official website, right - image brightness increased.

Controversy has been raging around this photo for a long time. Defenders of NASA, sitting on grants from the State Department, as well as foreign agents who day and night in our networks, are trying to prove that toy models and dolls really were on the moon. But for most people it has long been clear that there were simply no technical possibilities to fly to the Moon 50 years ago, and the entire landing on the Moon at the end of the 60s. The twentieth century was filmed using existing Hollywood technology. These technologies are easy to read in the film "Destination Moon", USA, 1950, and in the epic film "Star Wars" - instead of real comic ships in the frame are reduced copies - layouts.



Filming of a mock-up of a spaceship in the movie "Star Wars".

Filming of a mock-up of a spaceship in the movie "Star Wars".

The technology lies in the fact that ALL spaceships in general plans (i.e. their appearance) are filmed using mock-ups. Likewise, "Undocking in Lunar Orbit" in the series "Apollo 11" was filmed using a similar technology. In all frames of the "undocking" of the lunar module, reduced copies are used - mock-ups. And then the captured frame of the lunar module is inserted into the window frame on an optical trick machine. And since this is a proven technology (combining two frames into one combined frame), then there should be more than one such image, such as AS11-44-6592 with a mask that "cuts out" the lunar module, there should be many of them, to say the least - ALL shots in a series must be made using a single technology so as not to differ from each other.

Since the frames after the number 6592 went anaglyph through the red and blue filters,

AS11-44-6592-93 Red-Blue Anaglyph (0.2 Mb)

Red-blue anaglyph by Patrick Vantuyne.

let's take pictures with lower serial numbers.

Here is a snapshot of AS-44-6591 taken from NASA's official website. When the brightness of the image is increased, a mask is also visible

around the lunar module.

On the left is a snapshot of AS-44-6591 from the official NASA website, on the right is its highlight.

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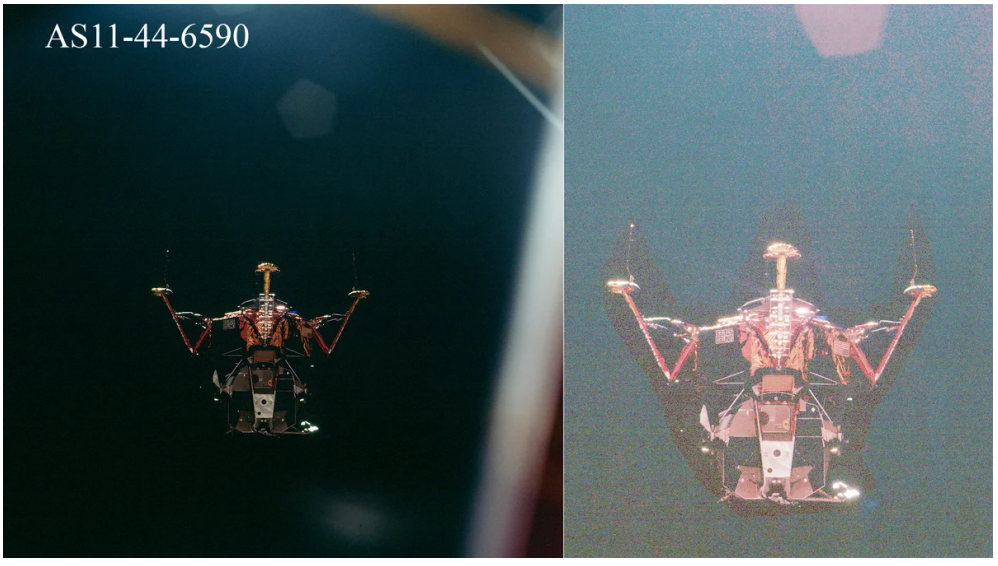
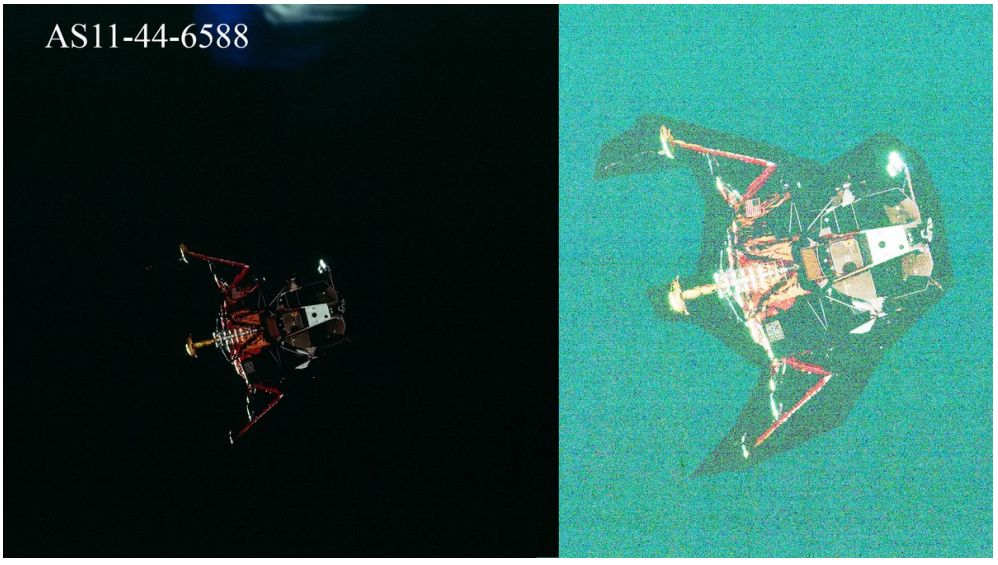
You can check it all yourself by looking at the NASA website here at this link: https://www.hq.nasa.gov/alsj/a11/images11.html#Mag44

In Photoshop, change the "gray level" by lightening the photo. If the contours of the mask are poorly readable, increase the sharpness through the "Filter" - "Sharpening" - "Sharpness +". You should see a clear mask.

Here is a frame with a lower number, 6590. There is also a mask here.

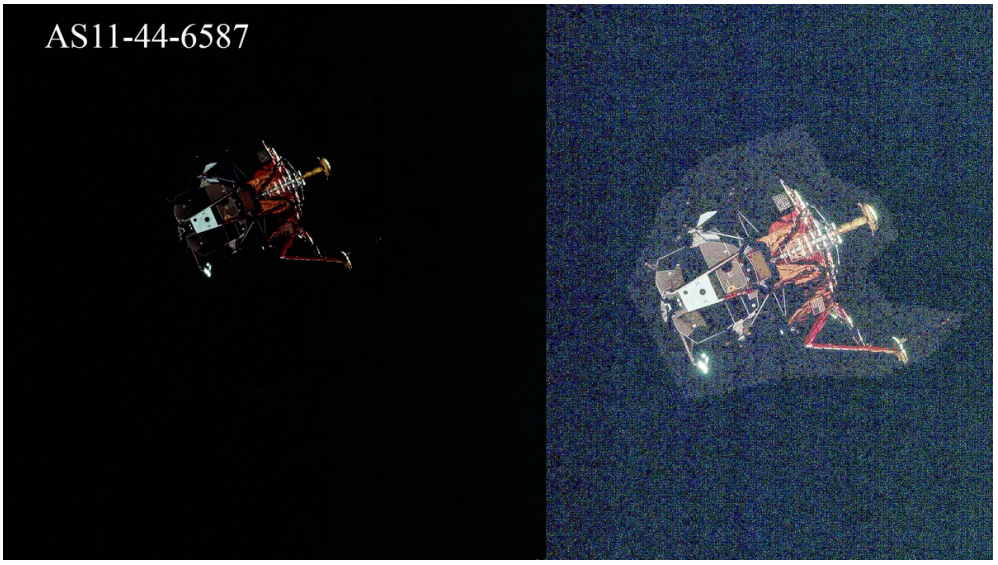


Here are some more pictures, numbered downward, without exception. First, there are two new images, 6589 and 6588.



You can notice that in several images the same blank with the lunar module is used, there is the same mask around it. This blank picture is rotated counterclockwise to obtain a variety of shots.

For other images, where the lunar module seems to have rotated around its axis, another blank of the lunar module is used with a different mask that envelopes the LM contours with a margin. Here are another 11 shots. On the left - the original from the official NASA website, on the right - a highlighted copy (sometimes we specially enlarged and cropped it a little to make the mask effect better visible). Numbers 6587 to 6577.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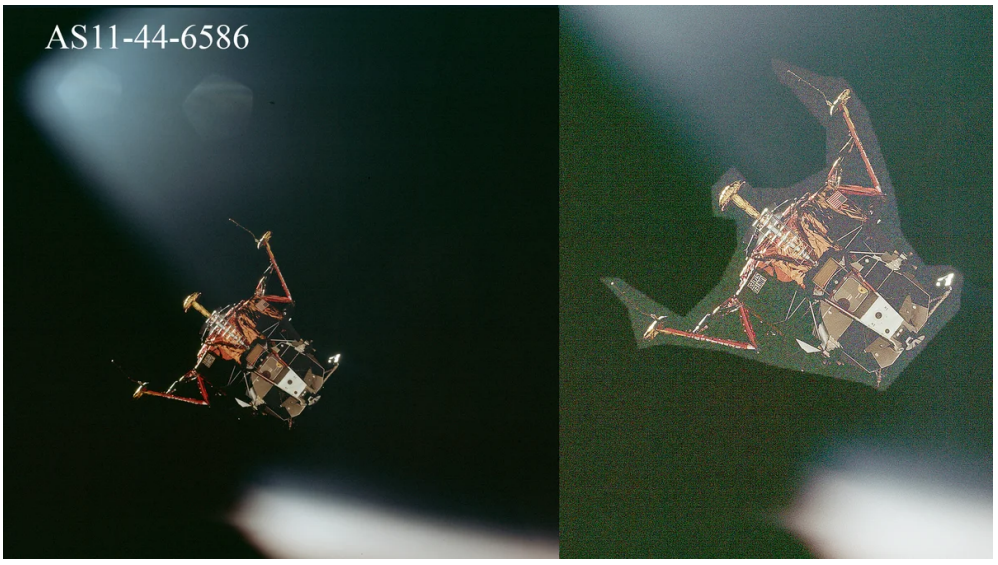
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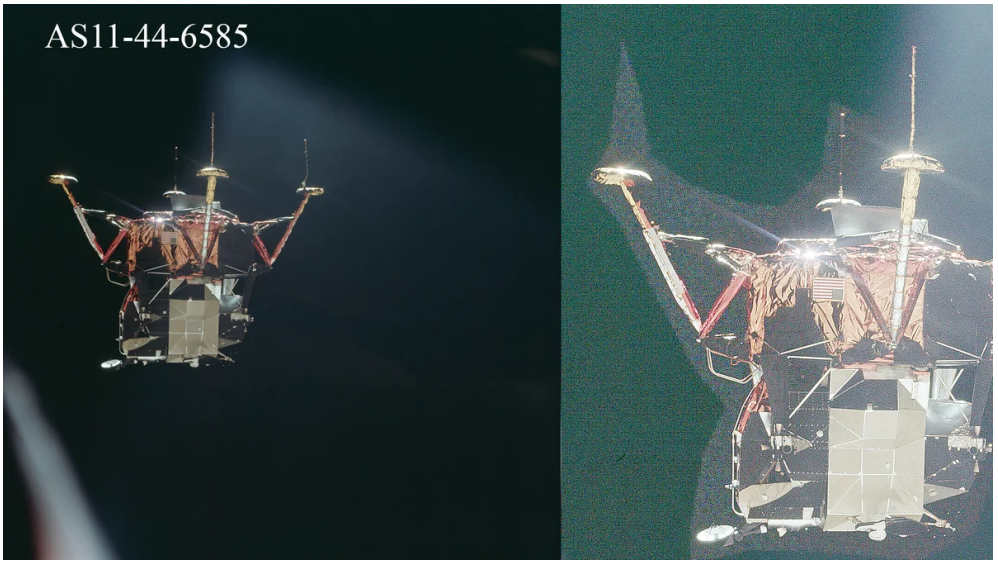
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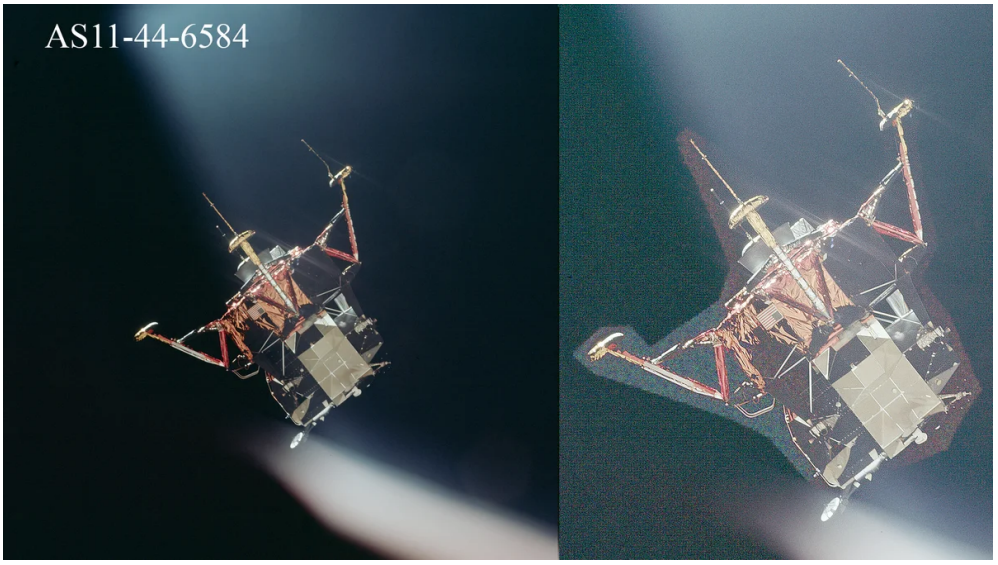
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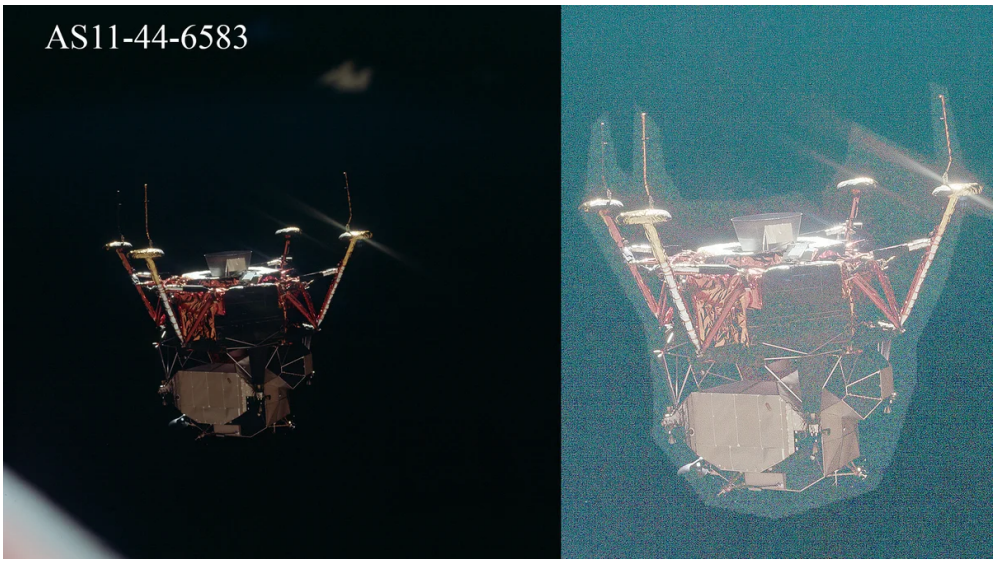
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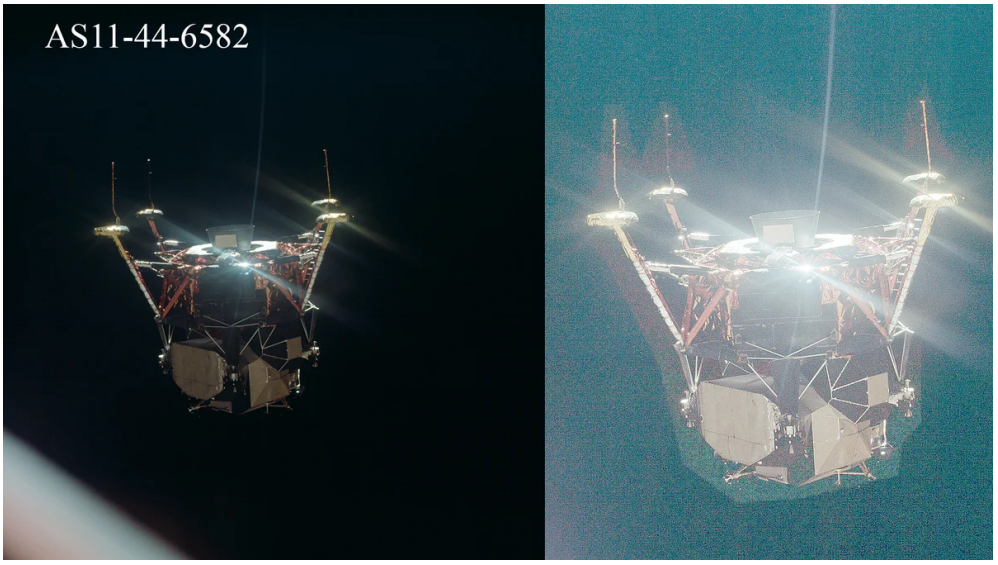
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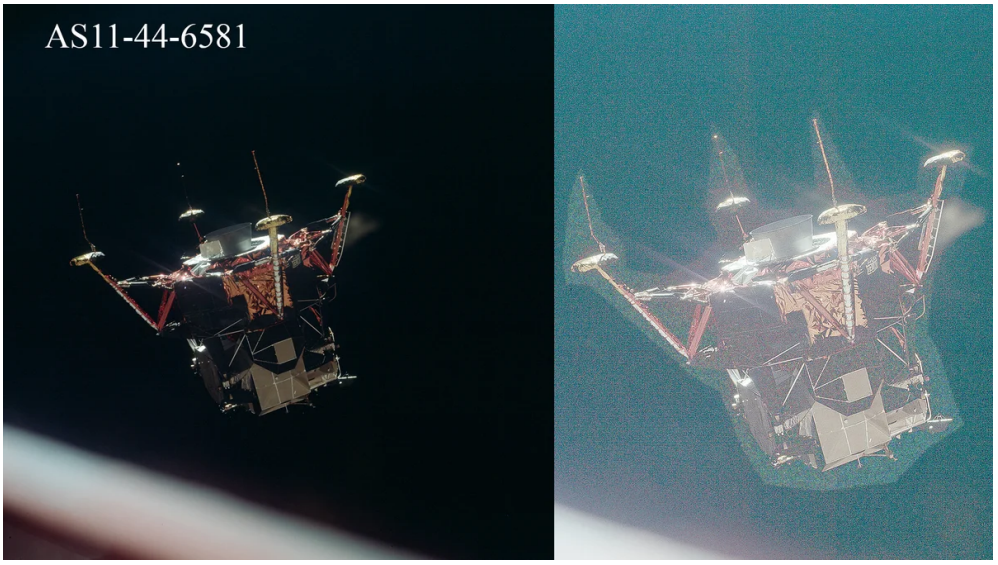
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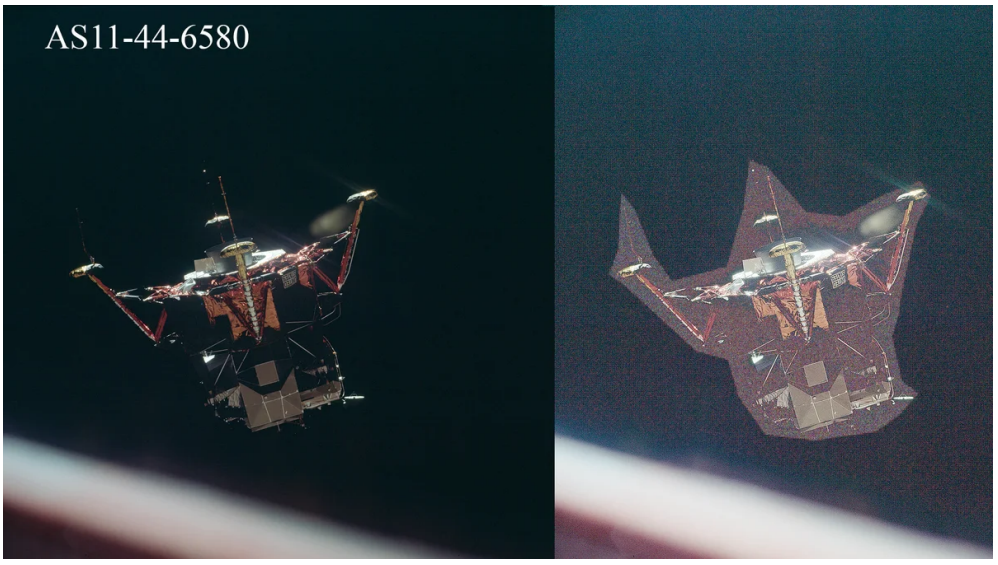
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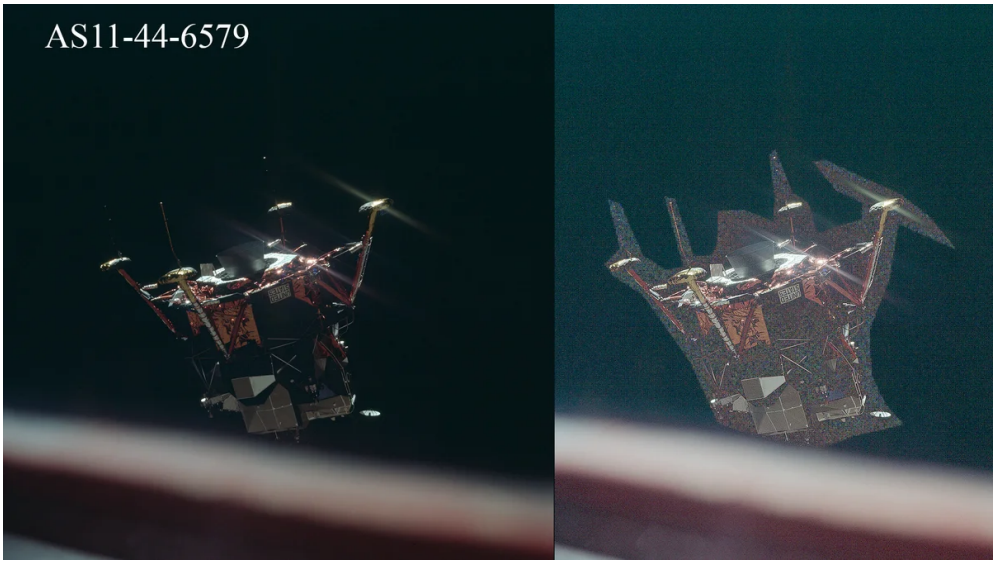
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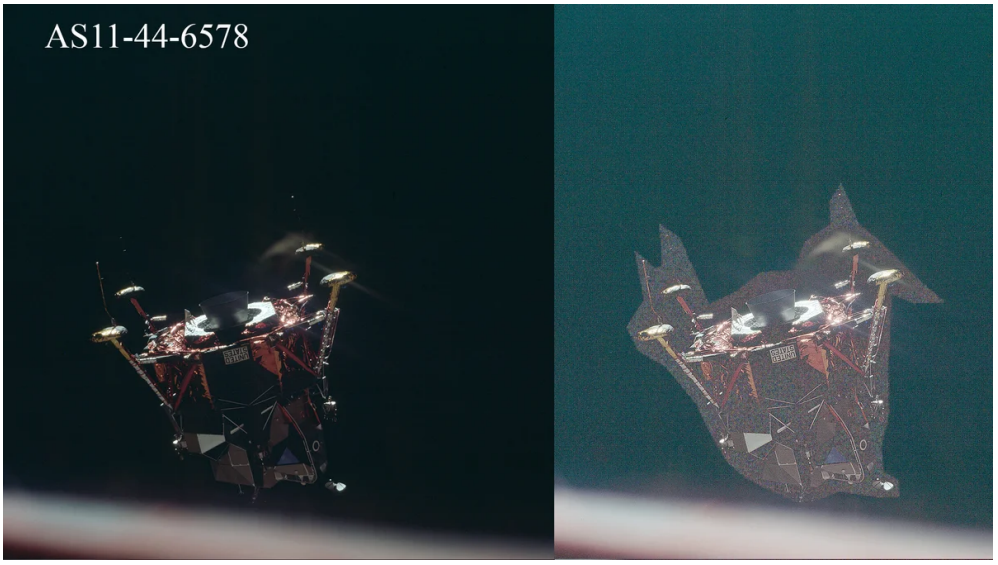
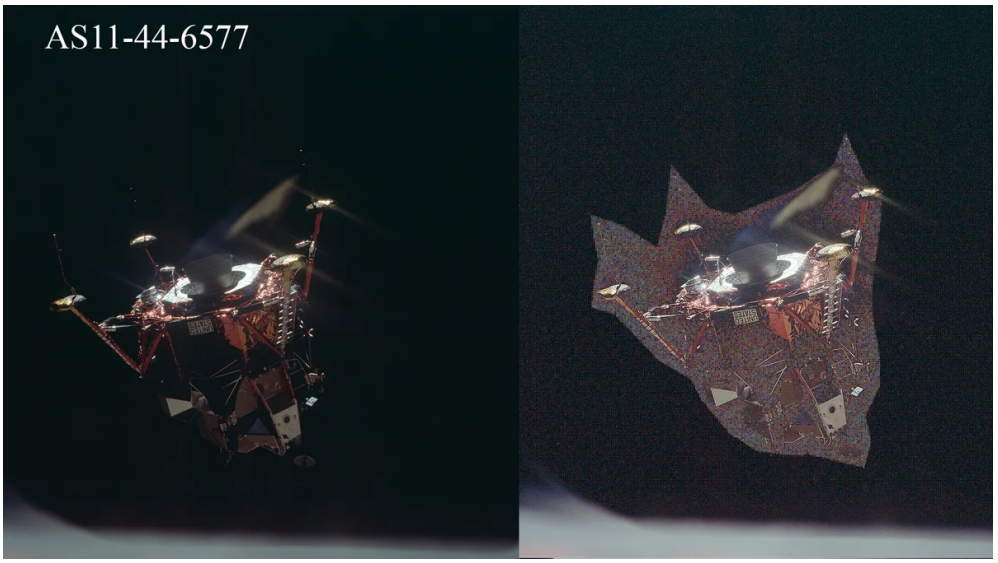
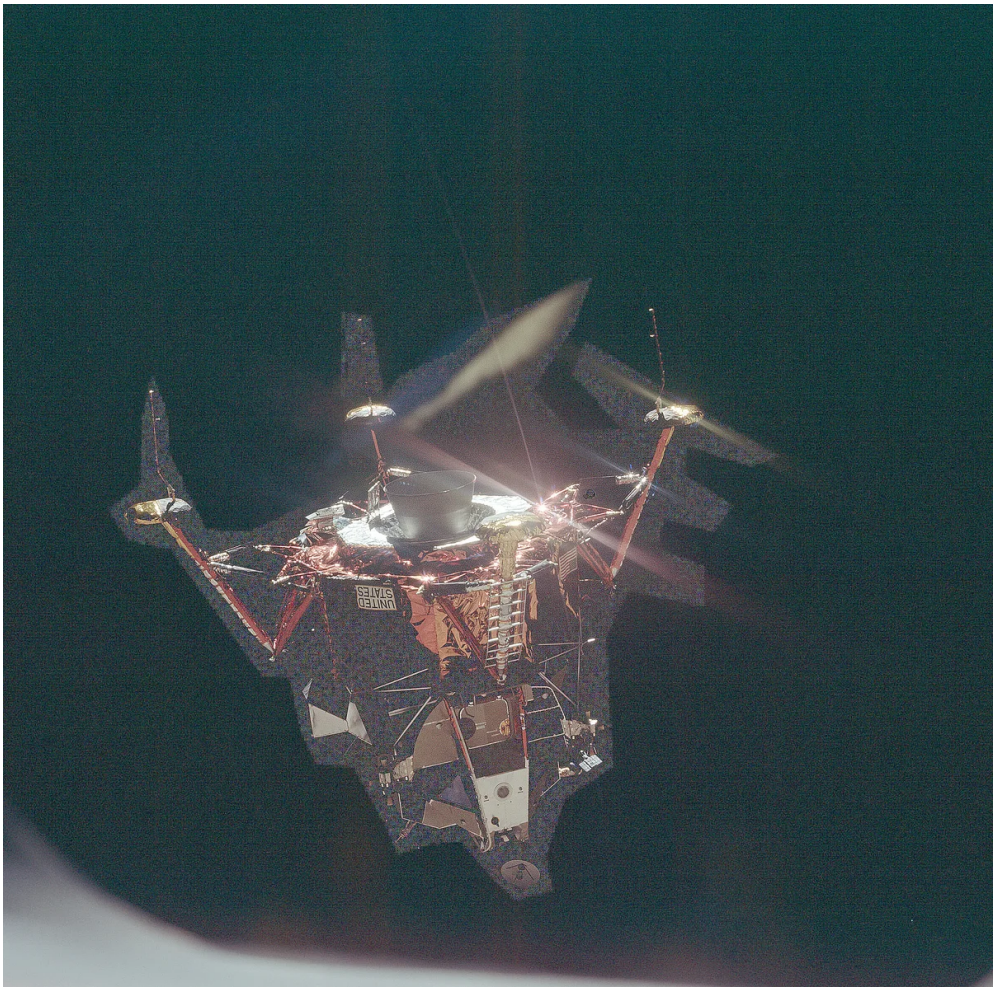




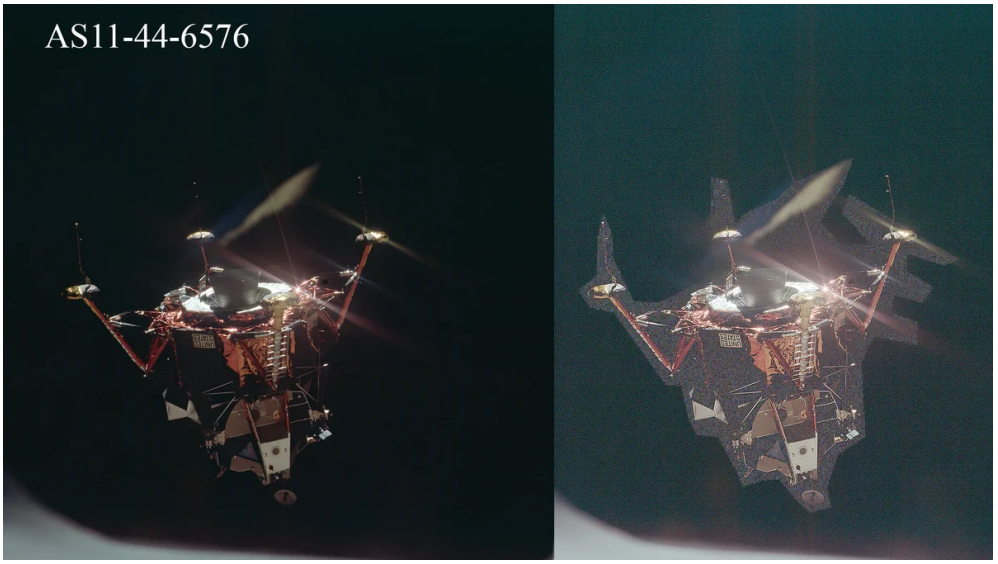
You probably noticed that the glare on the supports of the lunar module is in the image of the lunar module itself, so the mask carefully covers all these reflections.

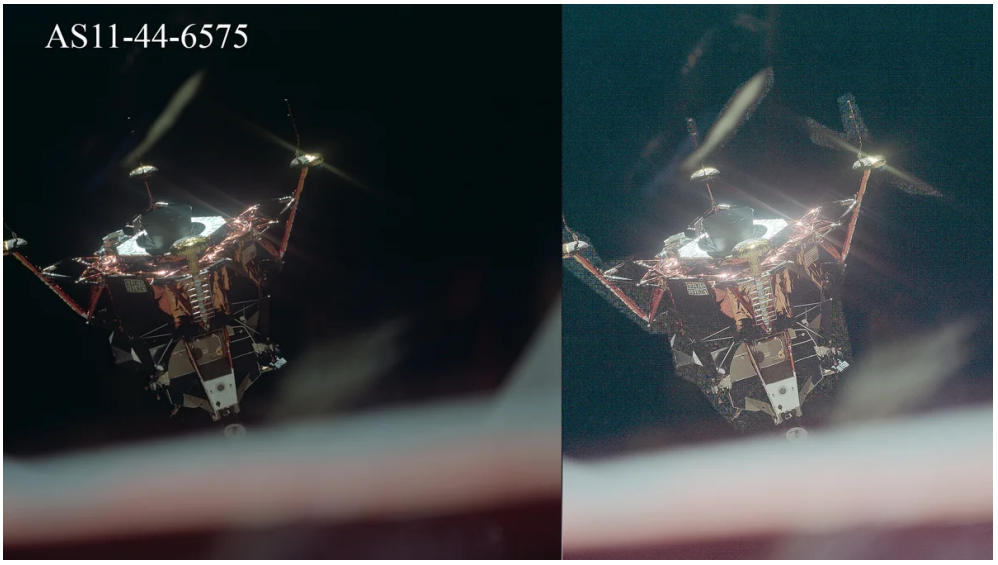


Lunar module with a mask covering all highlights on the supports, frame AS11-44-6576.

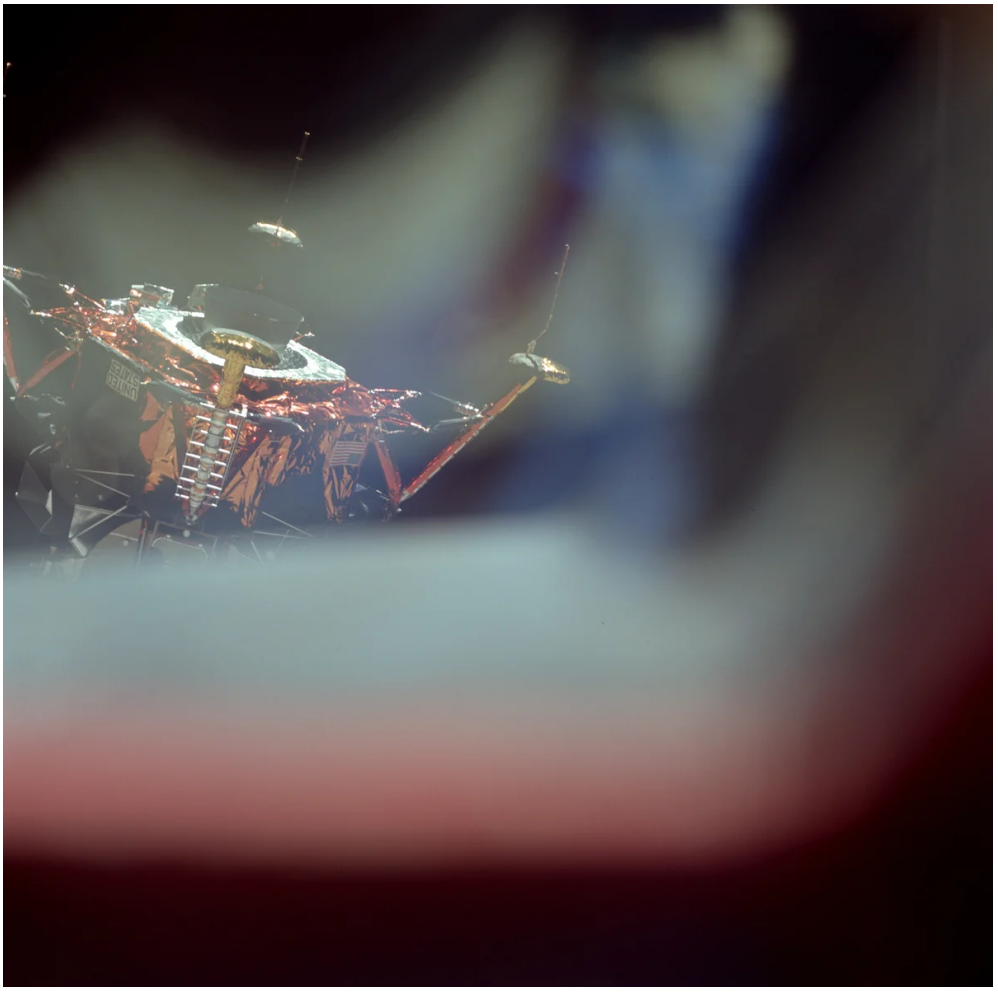
Lunar module with a mask covering all highlights on the supports, frame AS11-44-6576.

So, we showed you first three shots with a mask, then 2 more, then 11 shots, and here are a couple more. There will be 18 pictures in total.





There are a few more shots in the Undocking series. But they are so much clogged with colored and white highlights that there is practically nothing to discuss there - see, for example, snapshot AS11-44-6573 below.



Snapshot AS11-44-6573.

Snapshot AS11-44-6573.

But since this shot is part of the same series, so that it does not stand out from the rest, it must be made using exactly the same technology as all the others. In other words, there in the frame is the same toy module and exactly the same combination of two shots into one combined frame.

So, when examining the series of images "undocking the lunar module", we found that all the images are combined frames obtained in the laboratory by combining two separate images. All images have a mask, which indicates a UNIFIED TECHNOLOGY for obtaining such frames. Moreover, different graininess of images, different noises on a black background are immediately evident, which further emphasizes the independence of one image from another.

You probably already want to know how the apparatus looks like, on which two images were combined into a single frame, where the mask was and how it was made. More about this in the next article.

*

Cameraman L. Konovalov was with you. Until next time!